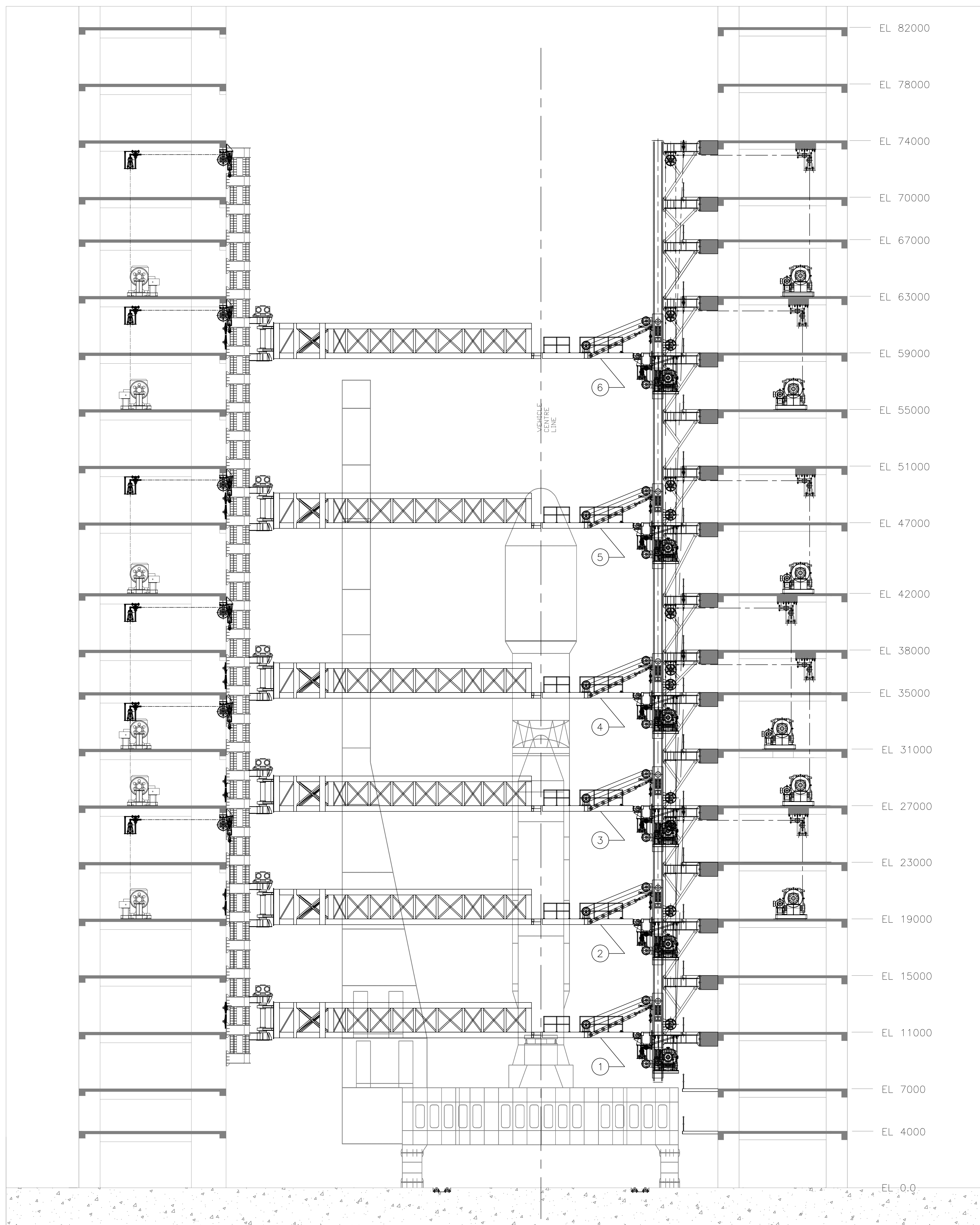
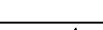



NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES AND ELEVATIONS ARE IN METRES.
2. IN THIS DRAWING, THE CONFIGURATION OF PLATFORMS (SCVRP & FCVRP) AT VARIOUS LEVELS ARE SHOWN FOR GSLV MK-III VEHICLES.

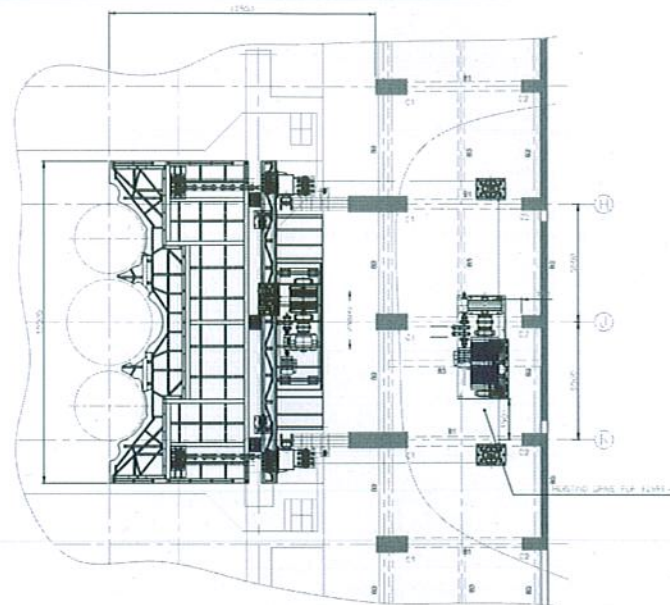
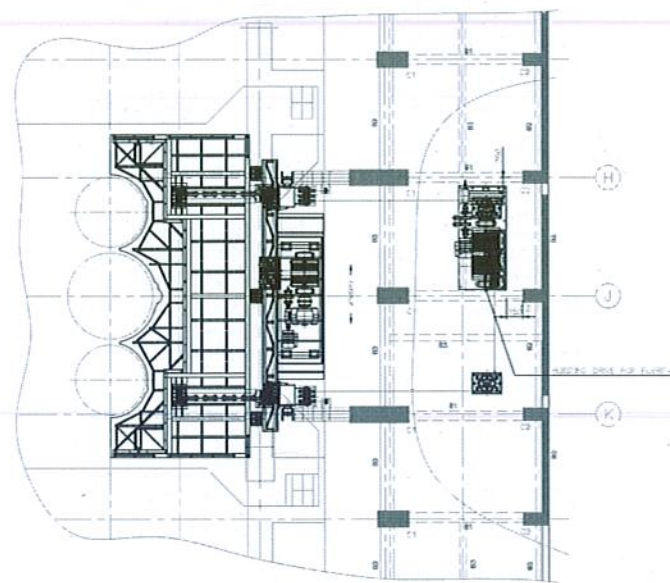
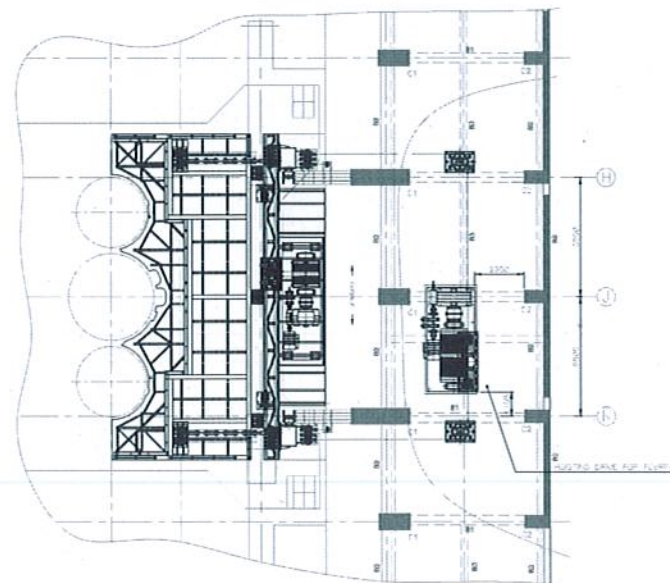
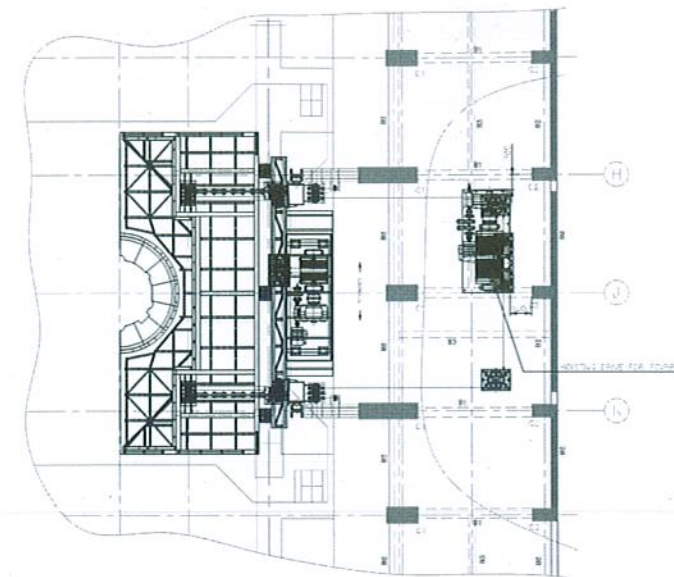
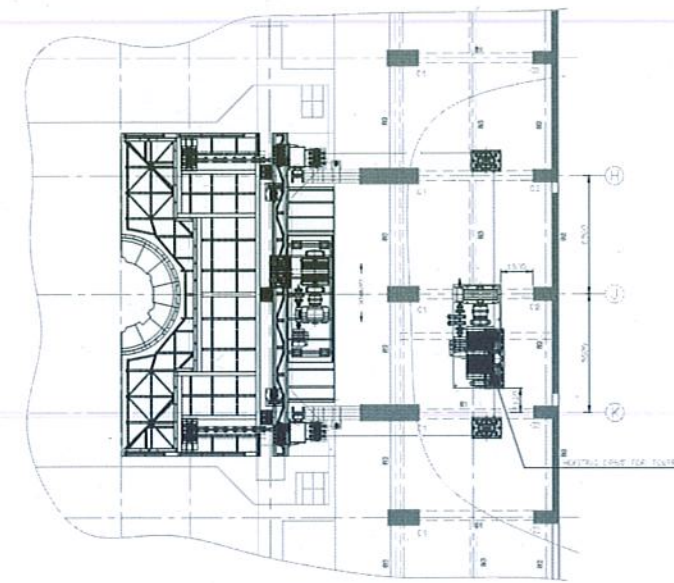
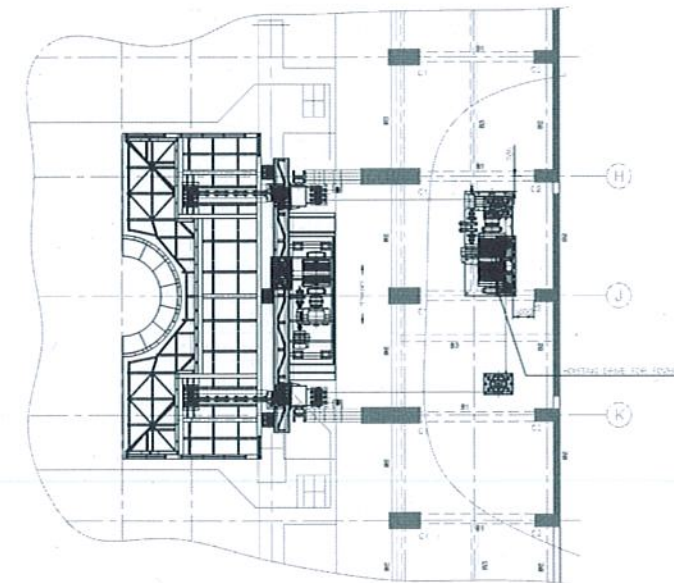
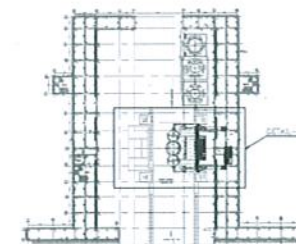


DO NOT SCALE	FOR REVIEW & COMMENTS
 INDIAN SPACE RESEARCH ORGANISATION SATISH DHAWAN SPACE CENTRE, SHAR	
 TATA CONSULTING ENGINEERS LIMITED MUMBAI	

0	SVAB			
SCVRP & FCVRP ELEVATION				
SCALE: 1:1		APPROVED		DATE (RO ISSUE)
DEL-CENTRE-DISC-MUM-ME		Sd/-WKL		DATE (CURRENT ISSUE)
DRN: NKP		Sd/-RS		02-03-15
CHD: Sd/-MUP		TCE.7517A-ME-GA-857-0002		ISSUE P0
		TCE.7517A-ME-GA-857-0002		

EL 62000
EL 78000
EL 74000
EL 70000
EL 67000
EL 63000
EL 59000
EL 55000
EL 51000
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EL 42000
EL 38000
EL 35000
EL 31000
EL 27000
EL 23000
EL 19000
EL 15000
EL 11000
EL 7000
EL 4000
EL 0.0

SECTIONAL ELEVATION OF SVAB

DETAIL-D1
VIEW FOR FCVRP-1
(FOR GSVL MK. III)VIEW FOR FCVRP-2
(FOR GSVL MK. III)VIEW FOR FCVRP-3
(FOR GSVL MK. III)VIEW FOR FCVRP-4
(FOR GSVL MK. III)VIEW FOR FCVRP-5
(FOR GSVL MK. III)VIEW FOR FCVRP-6
(FOR GSVL MK. III)

KEY PLAN OF SVAB

BILL OF MATERIAL			
ITEM NO.	DESCRIPTION	QTY	REMARKS
1	FCVRP-1	1	
2	FCVRP-2	1	
3	FCVRP-3	1	
4	FCVRP-4	1	
5	FCVRP-5	1	
6	FCVRP-6	1	

NOTES

1. ALL DIMENSIONS ARE IN MM.
2. IN THIS DRAWING, THE CONFIGURATION OF PLATFORMS AT VARIOUS LEVELS ARE SHOWN FOR GSVL MK-III VEHICLE.
3. FOR FCVRP-1, FCVRP-2 & FCVRP-3, THE GUIDE FRAME IS MOUNTED OUTSIDE THE GUIDE COLUMN WHILE FOR FCVRP-4, FCVRP-5 & FCVRP-6, THE GUIDE FRAME IS MOUNTED INSIDE THE GUIDE COLUMN.
4. THE WORKING LEVELS AND THE LOCATIONS FOR HOSTING FLUID & HOSTING TRAP FOR VARIOUS PLATFORMS ARE AS FOLLOWS:

ITEM NO.	PLATFORM	WORKING LEVEL	LOCATION OF HOSTING FLUID	LOCATION OF HOSTING TRAP
1	FCVRP-1	11.5m TO 22.0m	27.0m	19.0m
2	FCVRP-2	10.0m TO 20.0m	36.0m	22.0m
3	FCVRP-3	27.0m TO 38.0m	42.0m	31.0m
4	FCVRP-4	38.0m TO 47.0m	55.0m	42.0m
5	FCVRP-5	47.0m TO 59.0m	62.0m	55.0m
6	FCVRP-6	62.0m TO 70.0m	74.0m	63.0m

DO NOT SCALE FOR TENDER PURPOSE

INDIAN SPACE RESEARCH ORGANISATION
SATISH DHAWAN SPACE CENTRE, SHARTATA CONSULTING ENGINEERS LIMITED
MUMBAI

PROJECT SECOND VEHICLE ASSEMBLY BUILDING

TITLE FCVRP LAYOUT IN SVAB

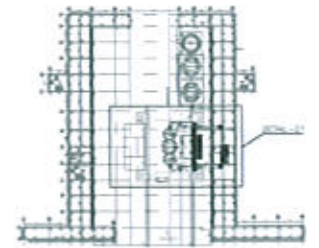
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DESIGNED: 01/04/2010 CHECKED: 01/04/2010

DRAWN: 01/04/2010

DATE: 01/04/2010

P1



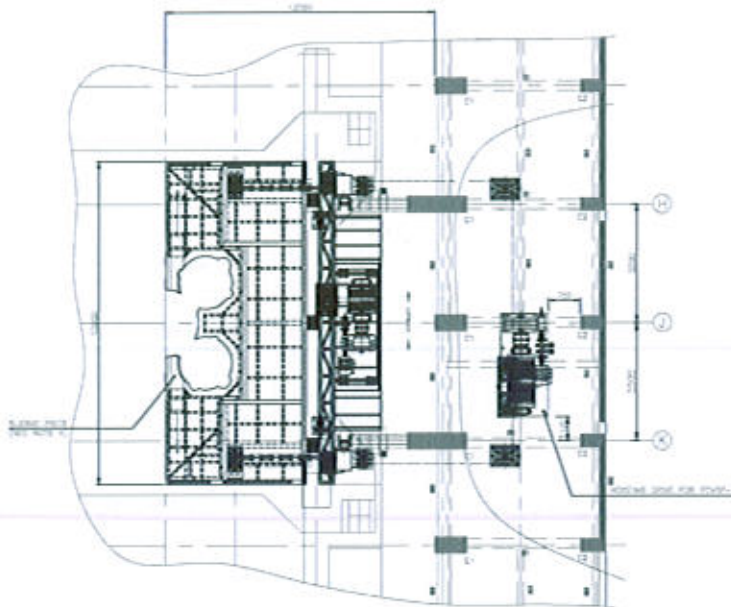
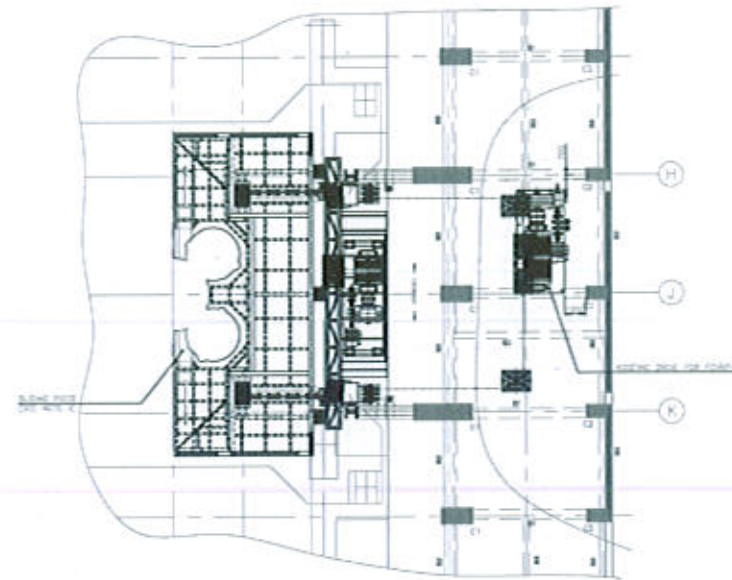
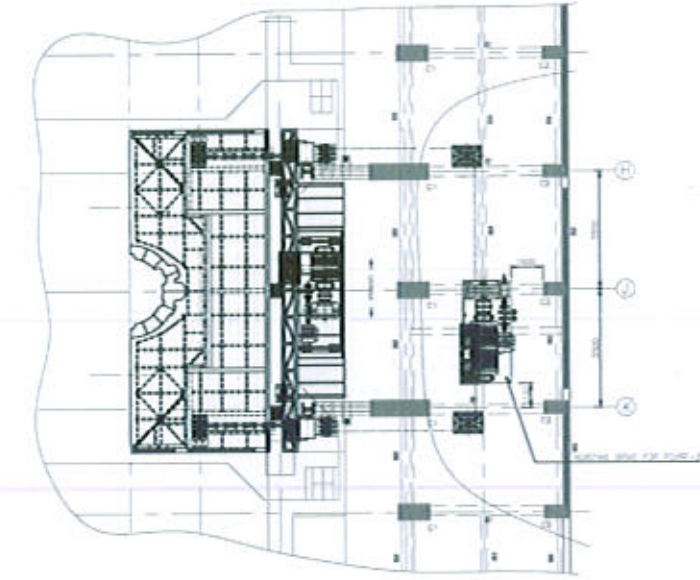
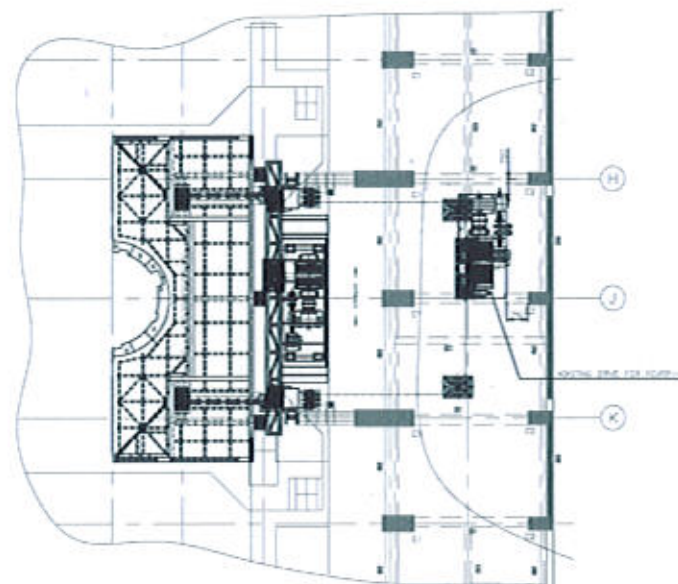
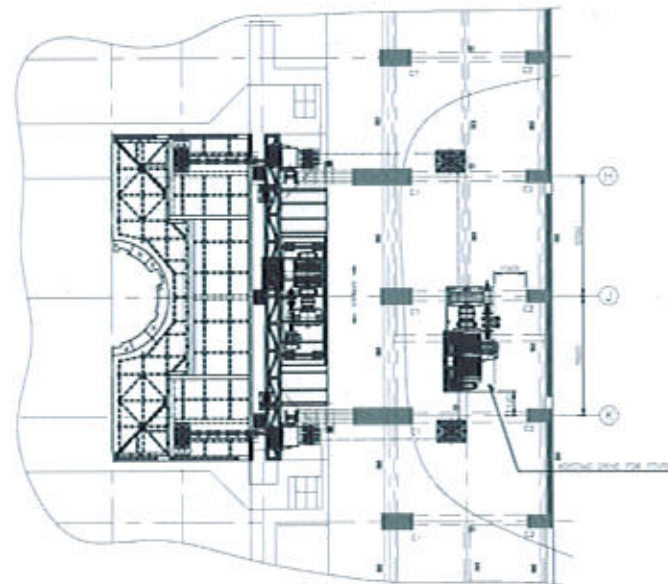
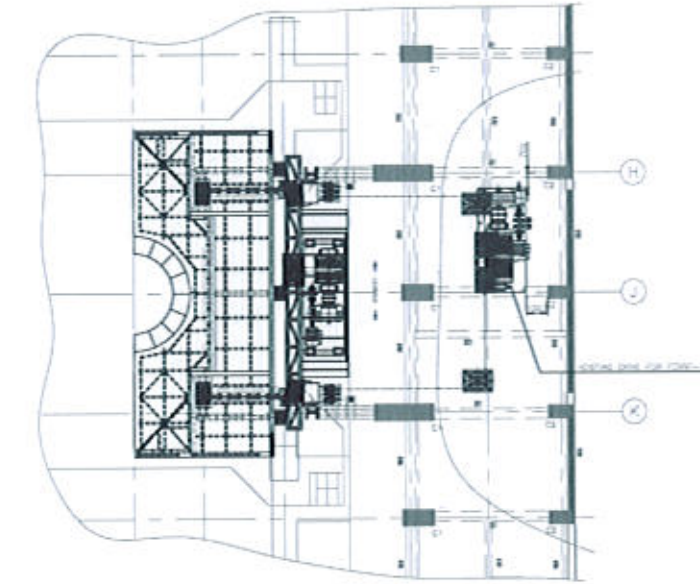
KEY PLAN OF SVAS

BILL OF MATERIAL			
ITEM NO.	DESCRIPTION	QTY	REMARKS
1	FCVSP-1	1	
2	FCVSP-2	1	
3	FCVSP-3	1	
4	FCVSP-4	1	
5	FCVSP-5	1	
6	FCVSP-6	1	

NOTES

1. ALL DIMENSIONS ARE IN MM.
2. IN THIS DRAWING, THE CONFIGURATION FOR FCVSP-1, FCVSP-2 AND FCVSP-3 ARE SHOWN FOR LAUNCH VEHICLE TYPE LVM3-ER.
3. FOR FCVSP-1, FCVSP-3 & FCVSP-5 THE GUIDE FRAME IS MOUNTED OUTSIDE THE GUIDE COLUMN WHILE FOR FCVSP-2, FCVSP-4 & FCVSP-6 THE GUIDE FRAME IS MOUNTED INSIDE THE GUIDE COLUMN.
4. SUITABLE TOWER & RIG MOUNTING SHALL BE PROVIDED FOR THE SLIDING RAILS OF FCVSP-1 AND FCVSP-2.
5. THE WORKING LEVELS AND THE LOCATIONS FOR HOSTING RAIL & HOSTING DRIVE FOR VARIOUS PLATFORMS ARE AS FOLLOWS:

SR NO.	PLATFORM	WORKING LEVEL	LOCATION OF HOSTING RAIL	LOCATION OF HOSTING DRIVE
1	FCVSP-1	11.0m TO 23.0m	27.0m	18.0m
2	FCVSP-2	18.0m TO 21.0m	35.0m	27.0m
3	FCVSP-3	27.0m TO 38.0m	42.0m	31.0m
4	FCVSP-4	35.0m TO 47.0m	51.0m	40.0m
5	FCVSP-5	47.0m TO 58.0m	63.0m	52.0m
6	FCVSP-6	58.0m TO 70.0m	74.0m	63.0m

DETAIL-D1
VIEW FOR FCVSP-1
(FOR GSLV MK II)VIEW FOR FCVSP-2
(FOR GSLV MK II)VIEW FOR FCVSP-3
(FOR GSLV MK II)VIEW FOR FCVSP-4
(FOR GSLV MK II)VIEW FOR FCVSP-5
(FOR GSLV MK II)VIEW FOR FCVSP-6
(FOR GSLV MK II)

READ THIS DRAWING IN CONJUNCTION WITH
FOLLOWING DRAWING NOS.:

1. TCE.7517A-ME-856-GA-0012
2. TCE.7517A-ME-856-GA-0013
3. TCE.7517A-ME-856-GA-0014
4. TCE.7517A-ME-856-GA-0015
5. TCE.7517A-ME-856-GA-0016
6. TCE.7517A-ME-856-GA-0017
7. TCE.7517A-ME-856-GA-0018

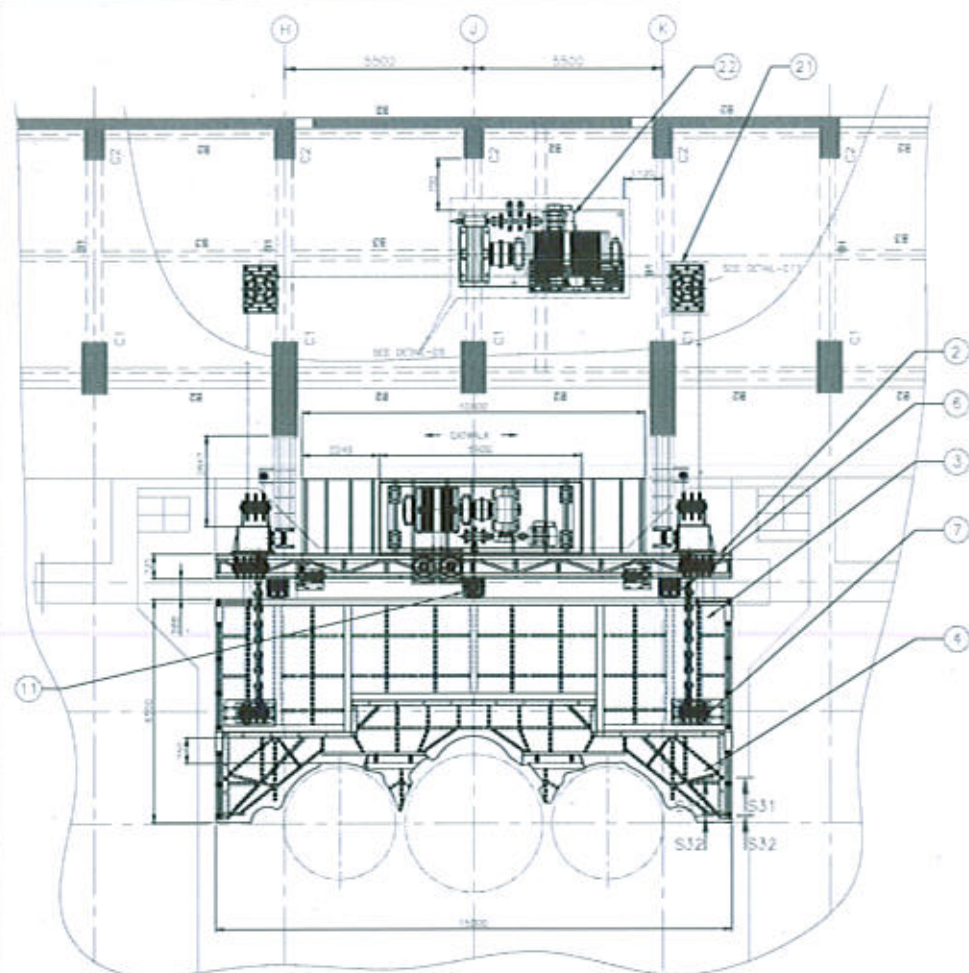
DO NOT SCALE	FOR TENDER PURPOSE
INDIAN SPACE RESEARCH ORGANISATION SATISH DHAWAN SPACE CENTRE, SHAR	
TATA CONSULTING ENGINEERS LIMITED MUMBAI	

PROJECT: SECOND VEHICLE ASSEMBLY BUILDING

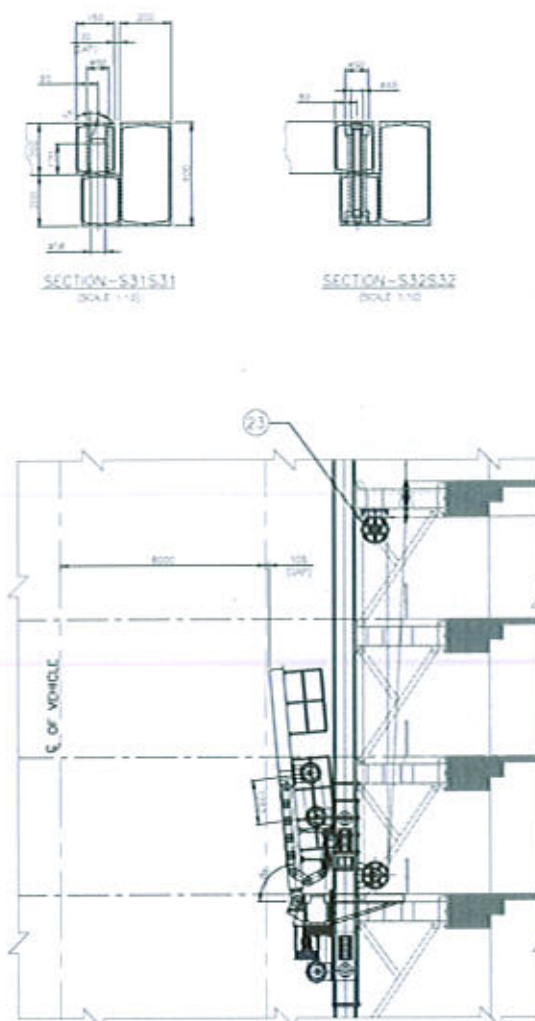
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CHECKED: RANJITH	SCALE: 1:1	DATE: 12.12.20
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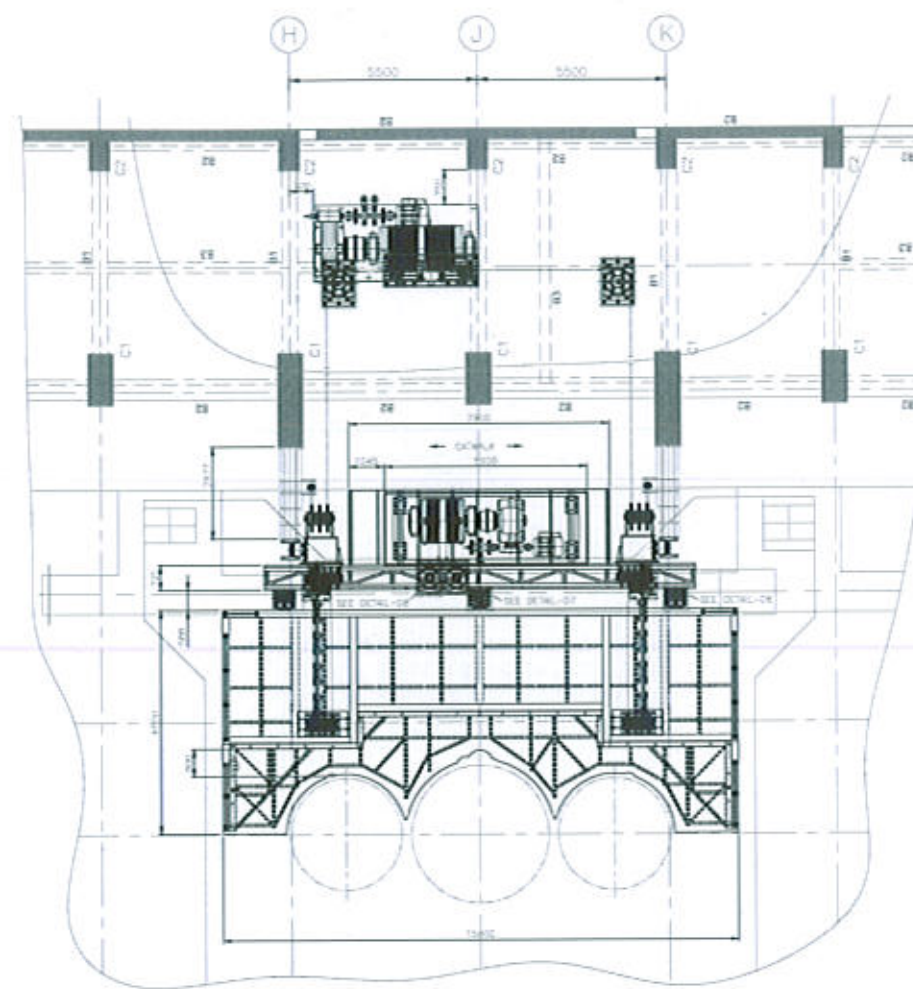
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PLAN FOR EQSP-1



SIDE VIEW
 (PATTERN 5008 & 5009) (PATTERN 5010)

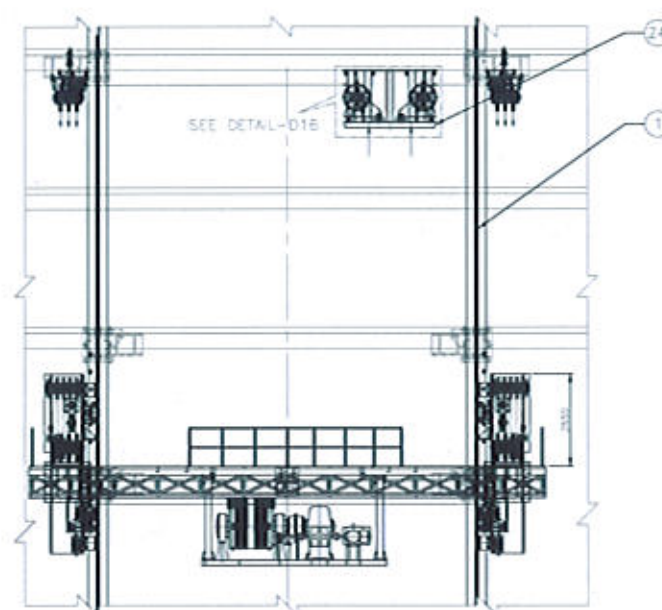
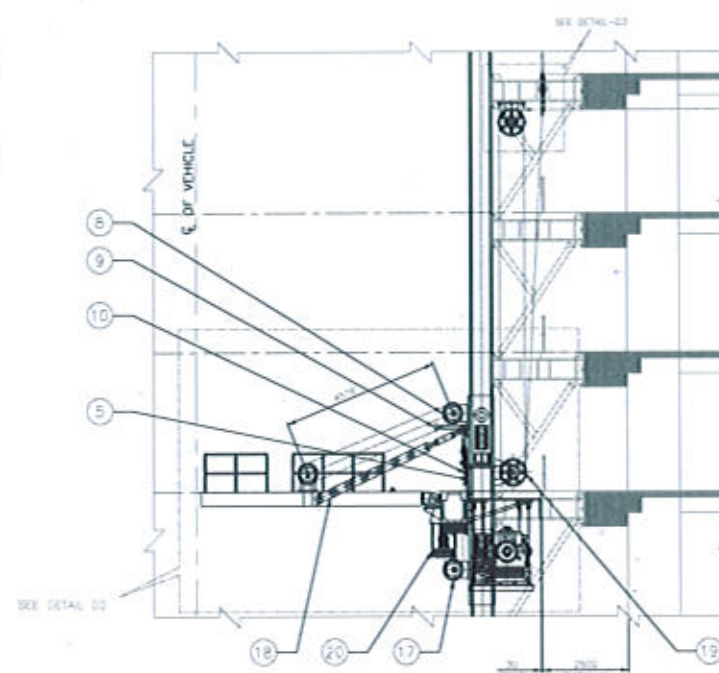


PLAN FOR FCYRP-2

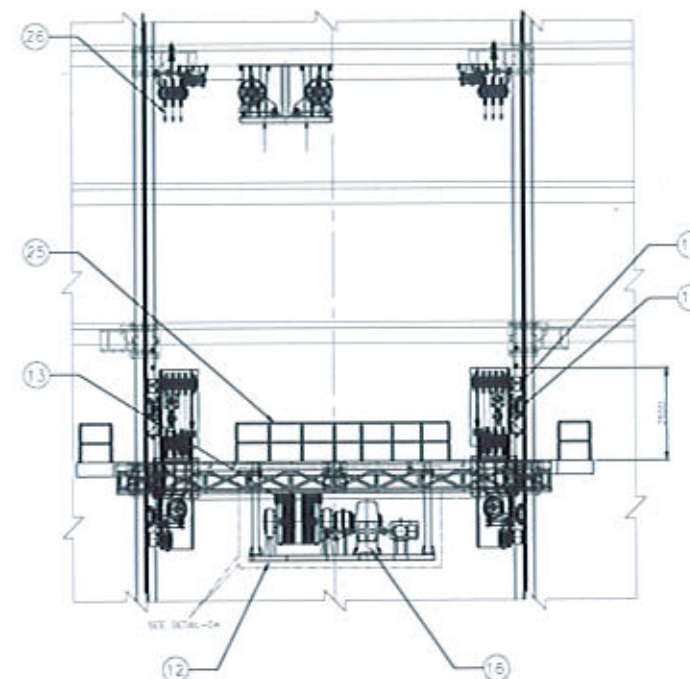
BILL OF MATERIAL			
PART	DESCRIPTION	QTY	REMARKS
1	GUIDE COLUMN	2	
2	FIXED PLATFORM	1	
3	FOLDABLE PLATFORM	1	
4	REPLACEABLE PLATFORM	1	
5	GUIDE FRAME	2	
6	WIND ATTACHMENT WITH BEARING	2	
7	FOLDING PULLEY BLOCK ON PLATFORM	2	
8	FOLDING PULLEY BLOCK ON GUIDE FRAME	2	
9	SPRING BUFFER ARRANGMENT	2	
10	PLATFORM LOCKING ARRANGEMENT	2	
11	WIND ATTACHMENT WITH BUSH	1	
12	GUIDE FRAME FOR FOLDING DRIVE	1	
13	HORIZONTAL DUMPER PULLEY (FOLDING)	2	
14	HORIZONTAL GUIDE ROLLER ARRANGMENT	4	
15	LATERAL GUIDE ROLLER ARRANGMENT	4	
16	FOLDING DRIVE SUBASSEMBLY	1	
17	FOLDING PULLEY ON GUIDE FRAME	2	
18	SAFETY LINE CHAIN	2	
19	HOISTING PULLEY BLOCK ON GUIDE FRAME	2	
20	150 TON PULLEY ARRANGMENT (FOLDING)	2	
21	HORIZONTAL DUMPER PULLEY (HOISTING)	2	
22	HOISTING DRIVE SUBASSEMBLY	1	
23	HOISTING PULLEY ARRANGMENT ON CONNECTING BEAM	2	
24	150 TON PULLEY ARRANGMENT (HOISTING)	1	
25	WIND RAILING		
26	WIDE BORE		

NOTES

1. ALL DIMENSIONS ARE IN MILLIMETERS.
2. IN THIS DRAWING THE CONFIGURATION FOR F04P-1, F04P-2 AND F04P-3 ARE SHOWN FOR LARVAL VEHICLE TYPE LWD-8A.
3. DIMENSIONS SHOWN IN THE BILL OF MATERIAL ARE FOR THE F04P-1 ONLY.
4. DRAWING IS ISSUED FOR TENDER PURPOSE ONLY. HENCE, ALL DETAILS REGARDING FITS AND TOLERANCES, WELDS, FASTENERS, ETC. ARE NOT SHOWN IN THIS DRAWING.
5. REFER TENDER DOCUMENT FOR THE PROPOSED MATERIALS TO BE USED FOR VARIOUS COMPONENTS OF F04P-1.
6. THE BIDDER IS EXPECTED TO SELECT THE BOUGHT-OUT COMPONENTS OF REPUTED MANUFACTURERS DULY APPROVED BY THE PURCHASER.
7. ALL THREADED FASTENERS SHALL BE TORQUED TO APPROPRIATE TORQUE VALUES.
8. WIRE LOCK THREADED FASTENERS.
9. WHEREVER WIRE LOCKING OR OTHER METHODS OF LOCKING ARE NOT FEASIBLE, LOCK WITH LOCITE® GRAY-ON. APPLY LOCITE® ON FASTENER THREADS ONLY. NO LOCITE® SHALL BE APPLIED ON THE HEAD SEATING SURFACE.
10. WHEREVER LOCITE® IS USED, NO OTHER LUBRICANT SHALL BE USED ON FASTENER THREADS OR HEAD SEATING SURFACES.
11. WHEREVER LOCITE® IS USED, NO LUBRICANT SHALL BE USED ON FASTENER THREADS AND HEAD SEATING SURFACES WITH MOLYDENE-2 DRESS.

ELEVATION

SIDE VIEW
CLATION SHOWS UNIFORM POSITION



ELEVATION

READ THIS DRAWING IN CONJUNCTION WITH
FOLLOWING DRAWING NOS. :

1. TCE.7517A-ME-856-GA-Q011
2. TCE.7517A-ME-856-GA-Q013
3. TCE.7517A-ME-856-GA-Q014
4. TCE.7517A-ME-856-GA-Q015
5. TCE.7517A-ME-856-GA-Q016
6. TCE.7517A-ME-856-GA-Q017
7. TCE.7517A-ME-856-GA-Q018

DO NOT SCALE	FOR TENDER PURPOSE
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INDIAN SPACE RESEARCH ORGANISATION
SATISH DHAWAN SPACE CENTRE, SHAR



SECOND VEHICLE ASSEMBLY BUILDING

FILE	EDVRP CONCEPT
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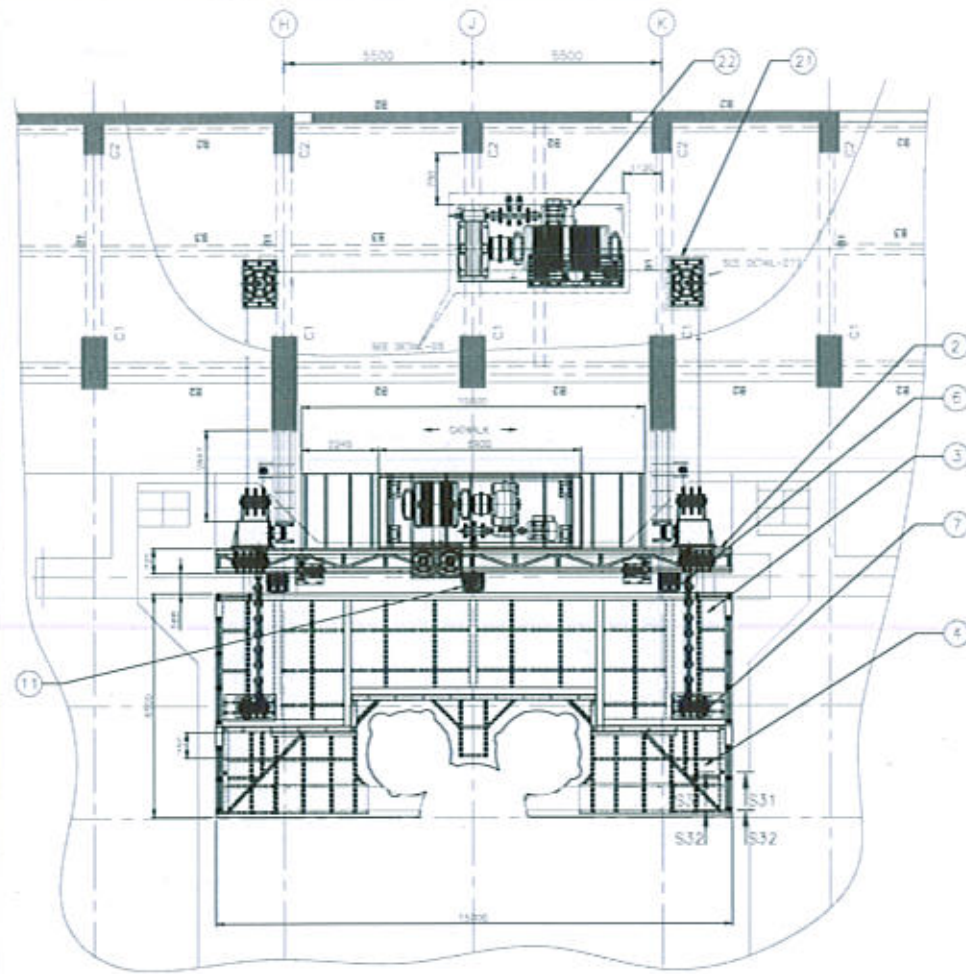
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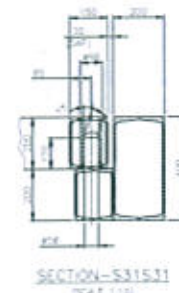
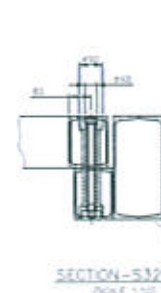
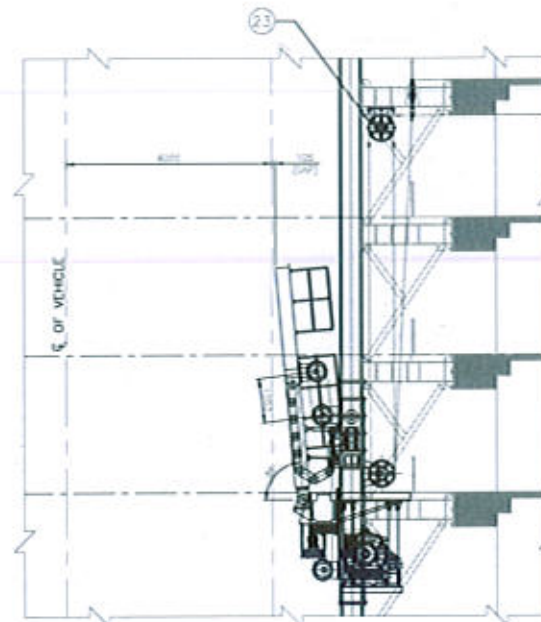
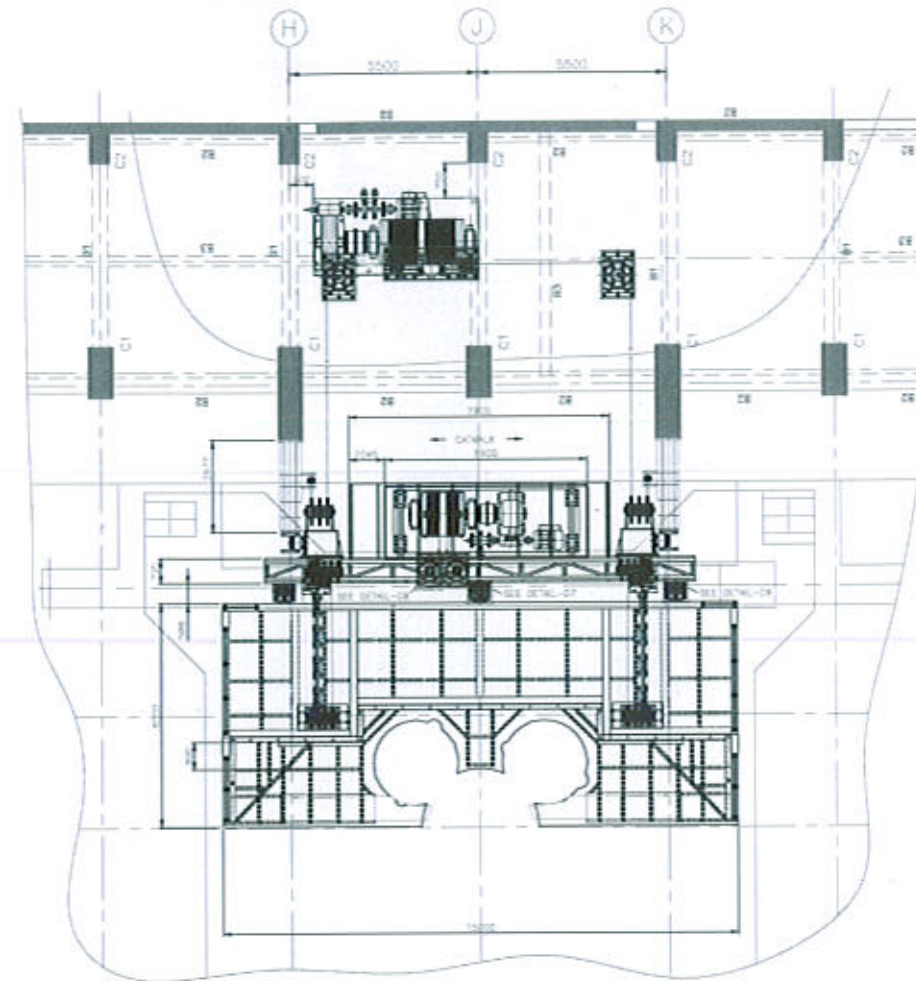
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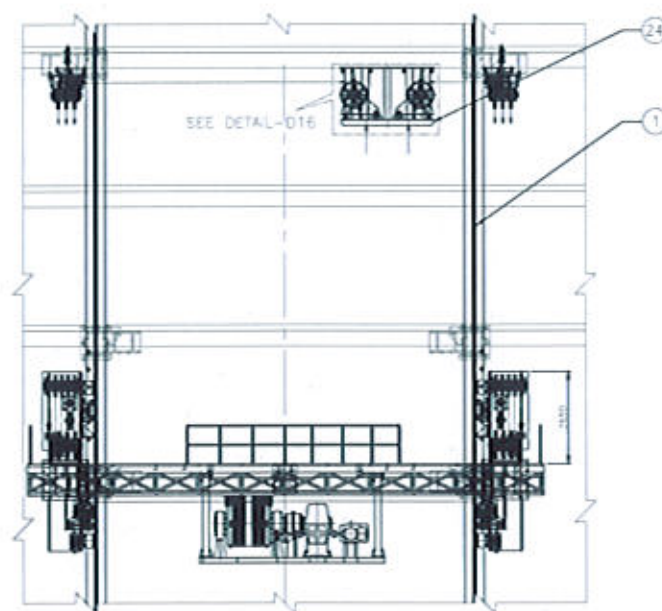
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70+	70%



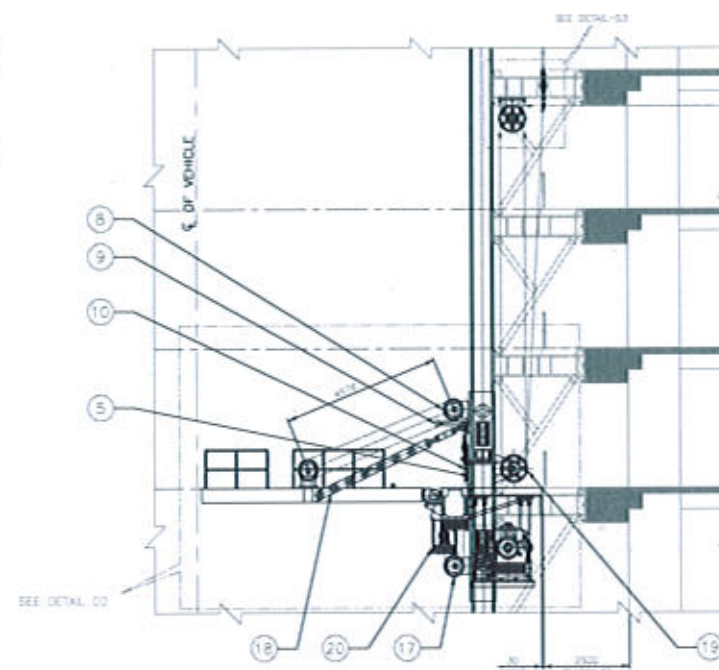
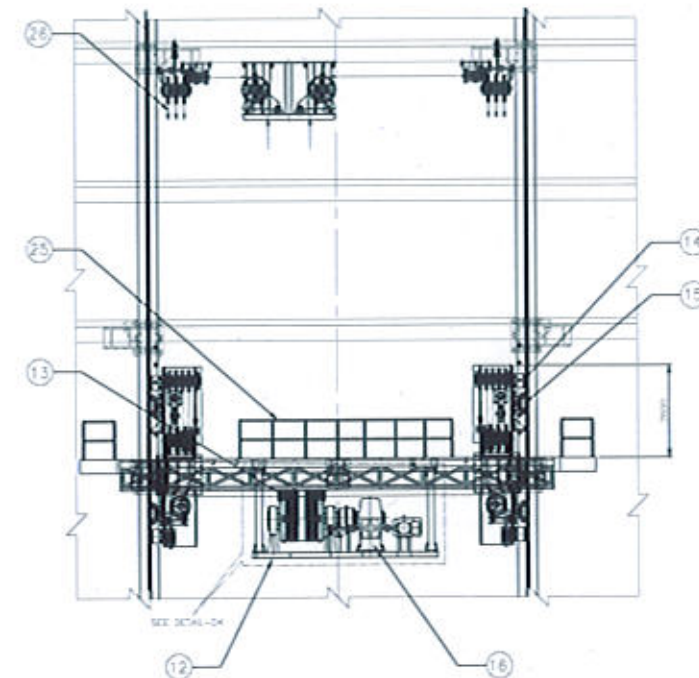
PLAN FOR FCVSP-1

SECTION-S31S31
SCALE: 1:10SECTION-S32S32
SCALE: 1:10SIDE VIEW
(SECTION S31S31 & S32S32 POSITION)

PLAN FOR FCVSP-2



ELEVATION

SIDE VIEW
(PLATFORM S31S31 & S32S32 POSITION)

ELEVATION

BILL OF MATERIAL			
ITEM NO.	DESCRIPTION	QTY	REMARKS
1	GUIDE COLUMN	2	
2	FIXED PLATFORM	1	
3	FOLDABLE PLATFORM	1	
4	REPLACEABLE PLATFORM	1	
5	GUIDE FRAME	2	
6	HINGE ARRANGEMENT WITH BEARING	2	
7	FOLDING PULLEY BLOCK ON PLATFORM	2	
8	FOLDING PULLEY BLOCK ON GUIDE FRAME	2	
9	SPRING BUFFER ARRANGEMENT	2	
10	PLATFORM LOCKING ARRANGEMENT	2	
11	HINGE ARRANGEMENT WITH BUSH	1	
12	GUIDE FRAME FOR FOLDING DRIVE	1	
13	HORIZONTAL DRIVER PULLEY (FOLDING)	2	
14	HORIZONTAL GUIDE ROLLER ARRANGEMENT	4	
15	LATERAL GUIDE ROLLER ARRANGEMENT	4	
16	FOLDING DRIVE SUBASSEMBLY	1	
17	FOLDING PULLEY ON GUIDE FRAME	2	
18	SAFETY LINK CHAIN	2	
19	HOLDING PULLEY BLOCK ON GUIDE FRAME	2	
20	LOAD CELL PULLEY ARRANGEMENT (FOLDING)	2	
21	HORIZONTAL DRIVER PULLEY (HOLDING)	2	
22	HOLDING DRIVE SUBASSEMBLY	1	
23	HOLDING PULLEY ARRANGEMENT ON CONNECTING BEAM	2	
24	LOAD CELL PULLEY ARRANGEMENT (HOLDING)	1	
25	WIND RAILING		
26	WIRE ROPE		

NOTES

1. ALL DIMENSIONS ARE IN MILLIMETERS.
2. IN THIS DRAWING THE CONFIGURATION FOR FCVSP-1, FCVSP-2 AND FCVSP-3 ARE SHOWN FOR LAND VEHICLE TYPE ONLY.
3. QUANTITIES SHOWN IN THE BILL OF MATERIAL ARE FOR ONE FCVSP ONLY.
4. THIS DRAWING IS ISSUED FOR TENDER PURPOSE ONLY. HENCE, ALL DETAILS REGARDING FITS AND TOLERANCES, WELDS, FASTENERS, ETC. ARE NOT SHOWN IN THIS DRAWING.
5. REFER TENDER DOCUMENT FOR THE PROPOSED MATERIALS TO BE USED FOR VARIOUS COMPONENTS OF FCVSP.
6. THE BIDDER IS EXPECTED TO SELECT THE BOUGHT OUT COMPONENTS OF REPUTED MANUFACTURERS DULY APPROVED BY THE PURCHASER.
7. ALL THREADED FASTENERS SHALL BE TORQUED TO APPROPRIATE TORQUE VALUES.
8. WIRE LOCK THREADED FASTENERS.
9. WHEREVER WIRE LOCKING OR OTHER METHODS OF LOCKING ARE NOT FEASIBLE, LOCK WITH LOCITE GRADE-01 APPLY LOCITE ON FASTENER THREADS ONLY. NO LOCITE SHALL BE APPLIED ON THE HEAD SEATING SURFACE.
10. WHEREVER LOCITE IS USED, NO OTHER LUBRICANT SHALL BE USED ON FASTENER THREADS OR HEAD SEATING SURFACES.
11. WHEREVER LOCITE IS NOT USED, LIGHTLY LUBRICATE FASTENER THREADS AND HEAD SEATING SURFACES WITH MOLYCORDE-G GREASE.

READ THIS DRAWING IN CONJUNCTION WITH FOLLOWING DRAWING NOS.:

1. TCE.7517A-ME-856-CA-0011
2. TCE.7517A-ME-856-CA-0012
3. TCE.7517A-ME-856-CA-0014
4. TCE.7517A-ME-856-CA-0015
5. TCE.7517A-ME-856-CA-0016
6. TCE.7517A-ME-856-CA-0017
7. TCE.7517A-ME-856-CA-0018

DO NOT SCALE FOR TENDER PURPOSE

INDIAN SPACE RESEARCH ORGANISATION
SATISH DHAWAN SPACE CENTRE, SHAR

TATA CONSULTING ENGINEERS LIMITED
MUMBAI

PROJECT SECOND VEHICLE ASSEMBLY BUILDING

TITLE FCVSP CONCEPT

SCALE 1:75 APPROVED DATE 01/01/2013

DESIGNED BY: [Signature] DATE: 01/01/2013

CHECKED BY: [Signature] DATE: 01/01/2013

DATE: 01/01/2013

FOR NO. SCALE ONLY										REVISIONS										CLEARED										REVISIONS										CLEARED										REVISIONS										CLEARED									
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SECTION-S1S1

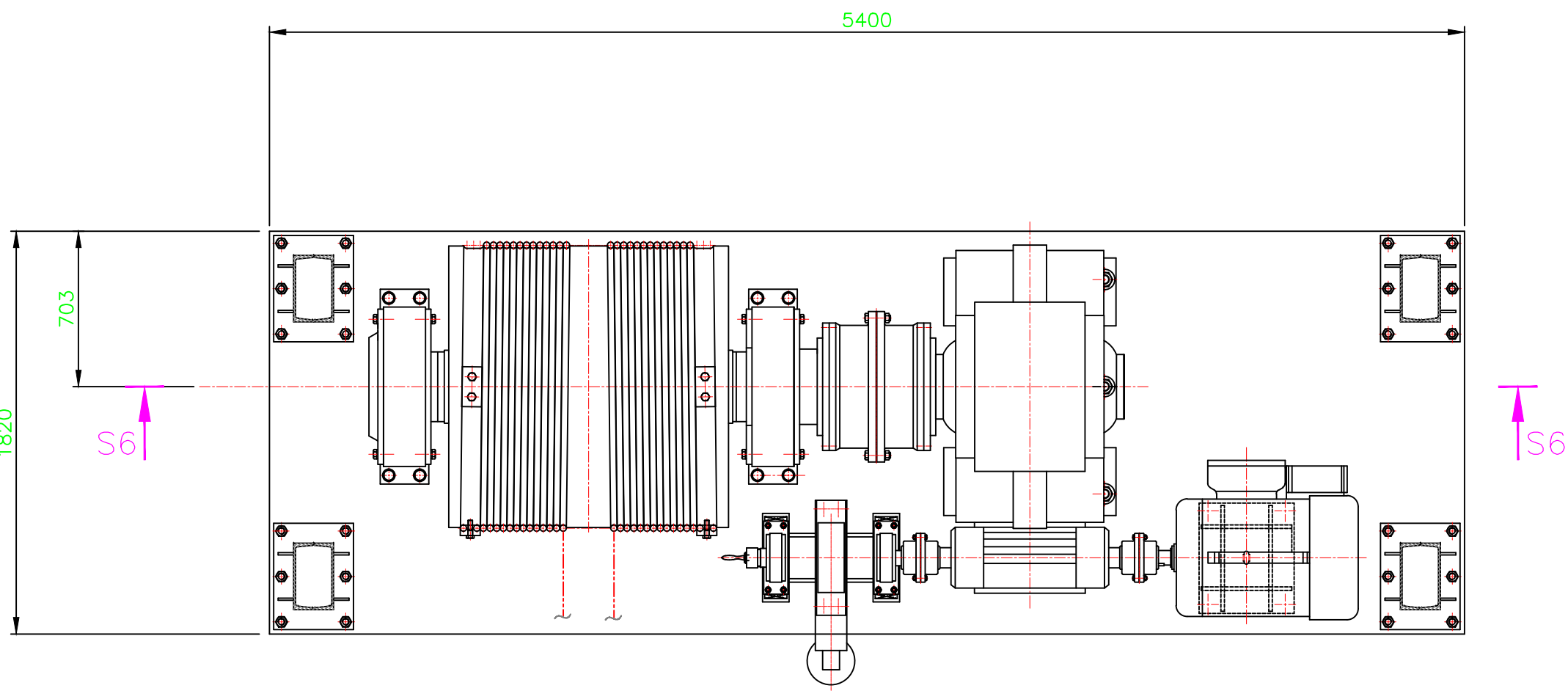
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TP* (PRELIMINARY) ISSUES ARE NOT TO BE USED FOR CONSTRUCTION / FABRICATION BUT ARE ISSUED FOR LIMITED PURPOSES ONLY AS INDICATED IN THE SMALL BLOCK IN THE TOP RIGHT HAND CORNER OF THE TITLE BLOCK.

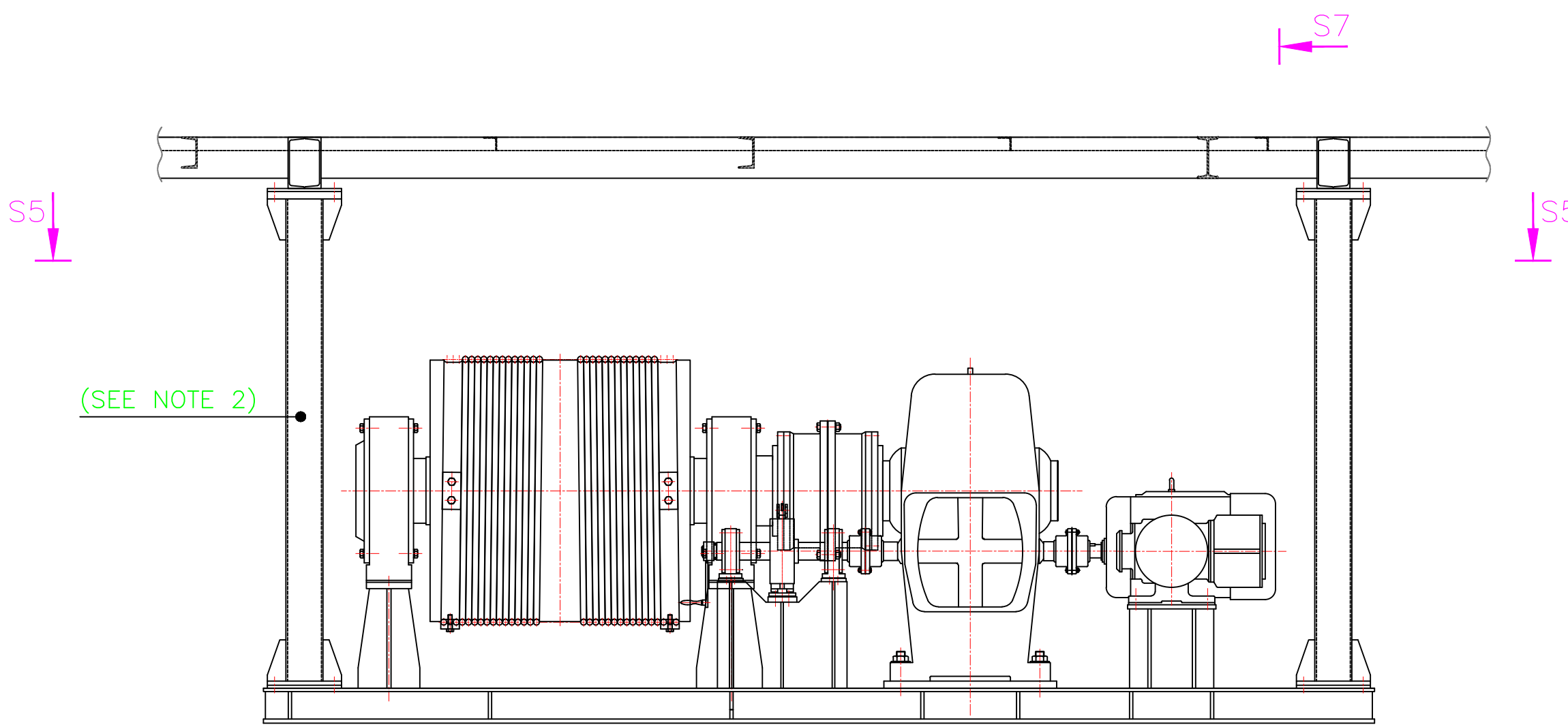
CONSTRUCTION / FABRICATION WORK IS PRESENTED ON R* (RELEASED) ISSUES ONLY.

INFORMATION CONTAINED WITHIN 'HOLD' IS NOT RELEASED FOR CONSTRUCTION/ FABRICATION. FIELD MUST GET DESIGN OFFICE TO CLEAR 'HOLDS' IN TWO WEEKS. PREETING WITH ANY CONSTRUCTION/FABRICATION WORK RELATED TO 'HOLDS'.

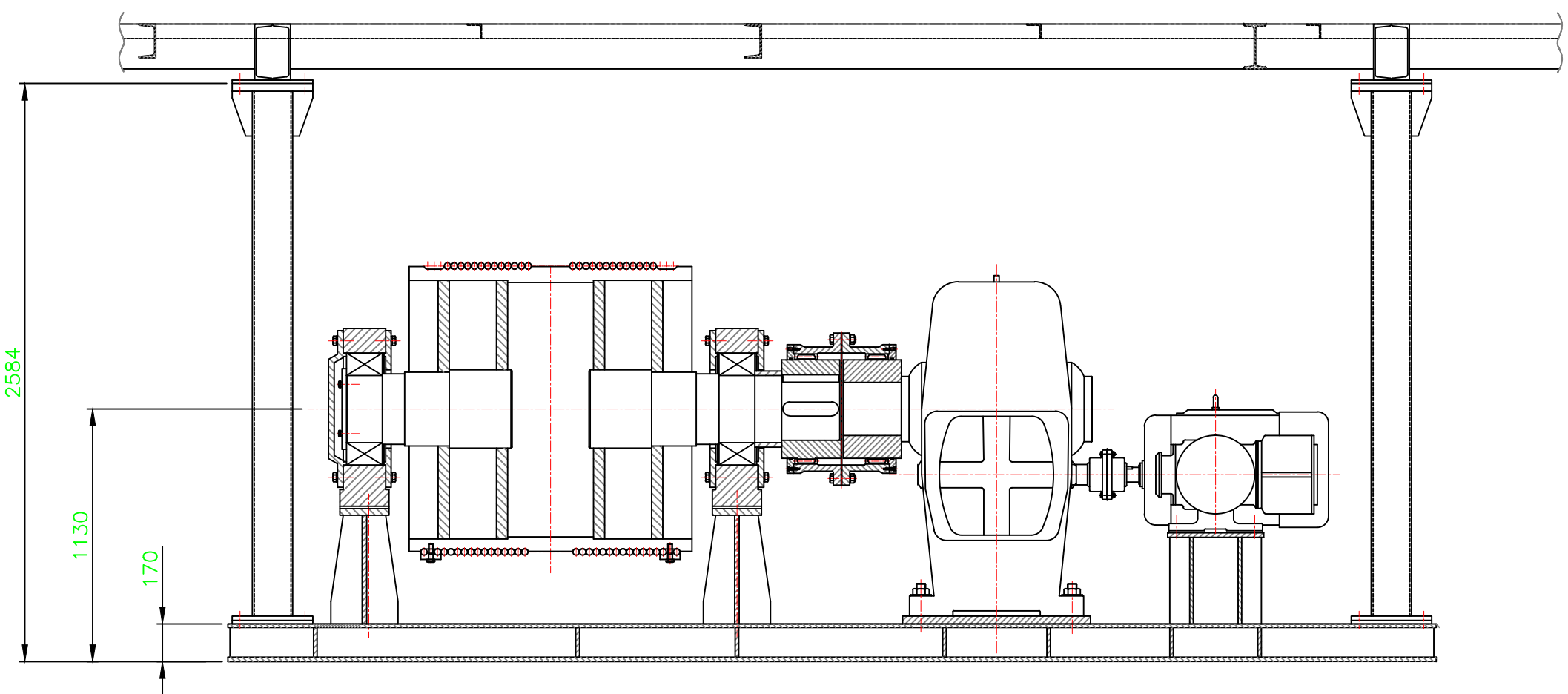
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		TATA CONSULTING ENGINEERS LIMITED	
		MUMBAI	
PROJECT SECOND VEHICLE ASSEMBLY BUILDING			
TITLE		FCVPR CONCEPT	
SCALE: 1:25	APPROVED		DATE: (RD ISSUE)
DEL-CENTRE-DISC-MUM-ME	Sd/-MKL		DATE: (CURRENT ISSUE) 10.03.2015
DRN: RGIMISTRY	Sd/-RS		Sd/-RS
CHD: SD/-ABD	DWG NO	TCE.7517A-ME-856-GA-0014	ISSUE P1
17	18	19	TCE FORM NO. 041 R1



SECTION S5S5

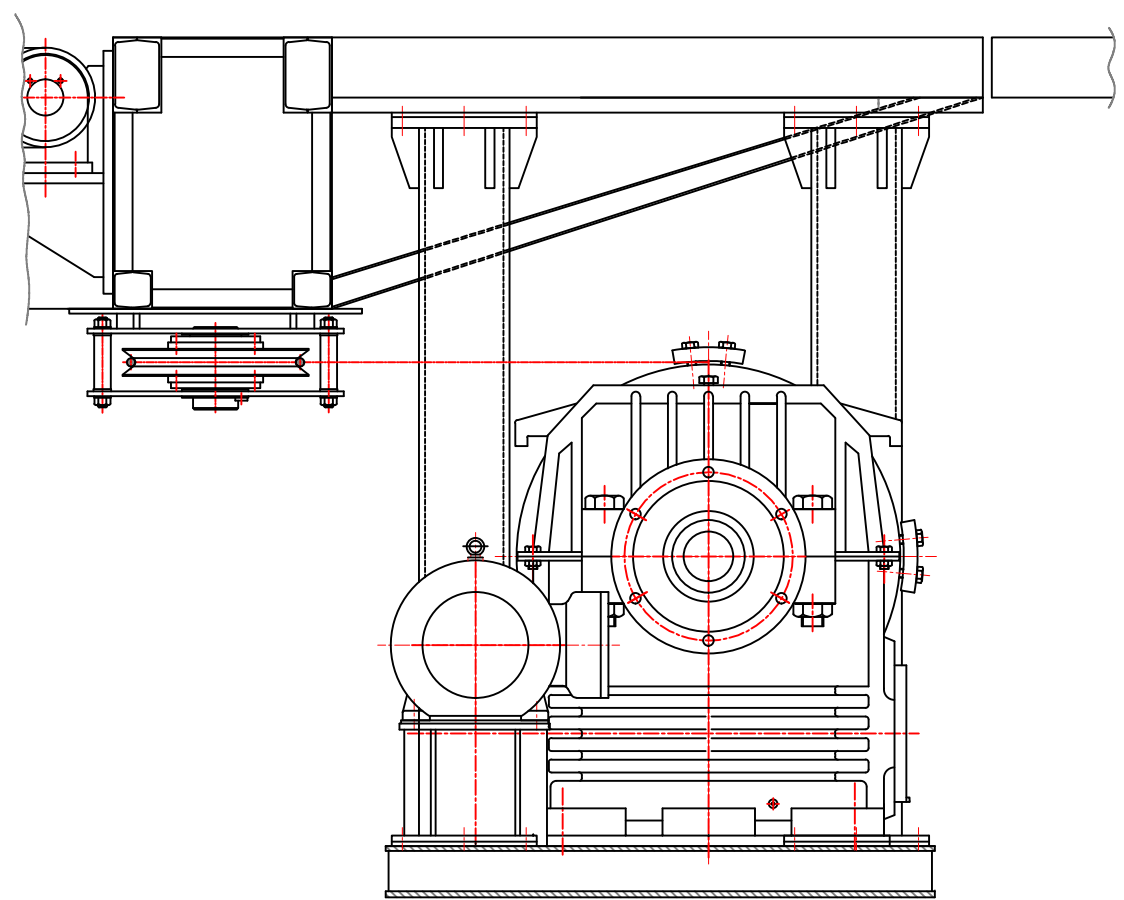


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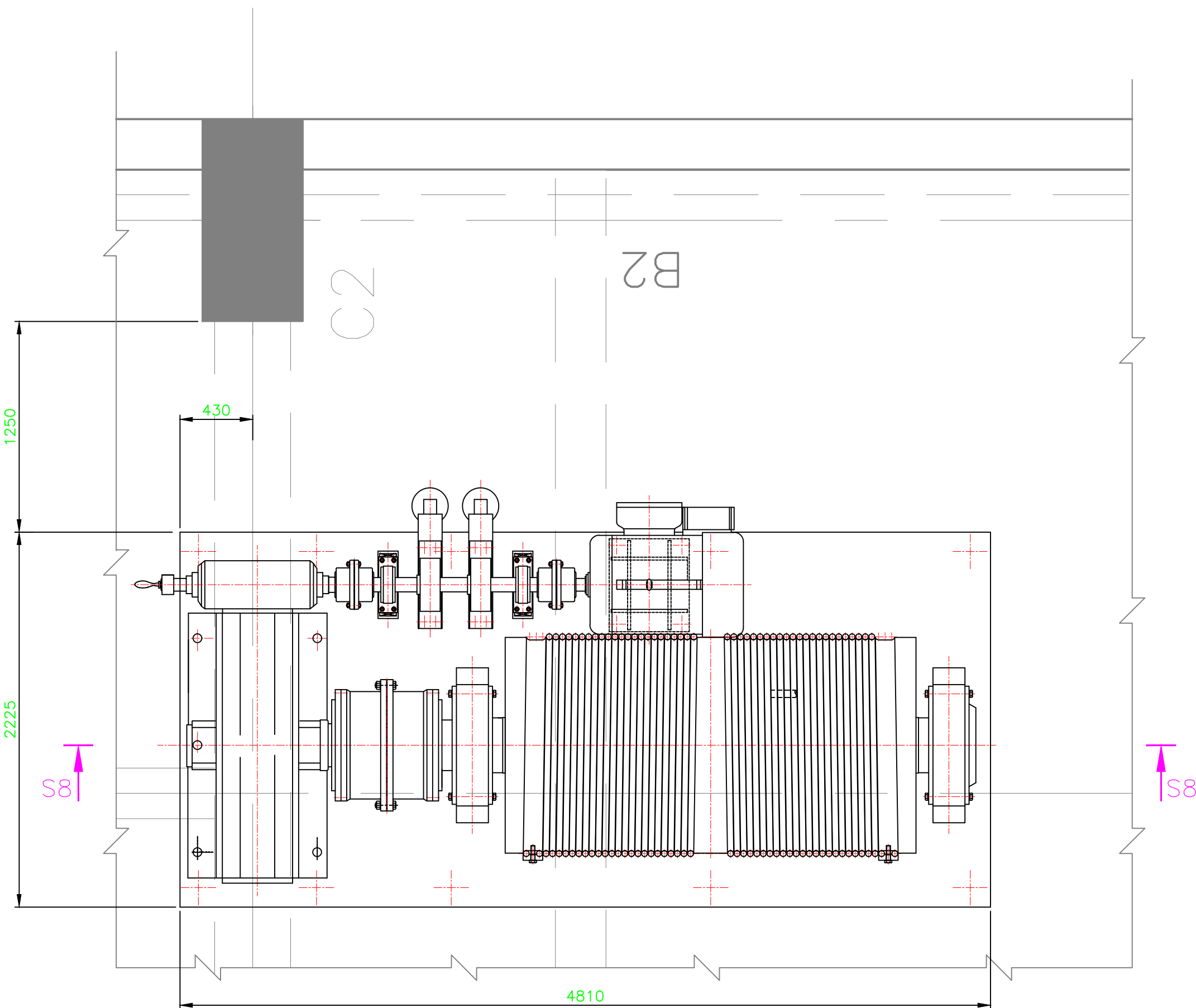


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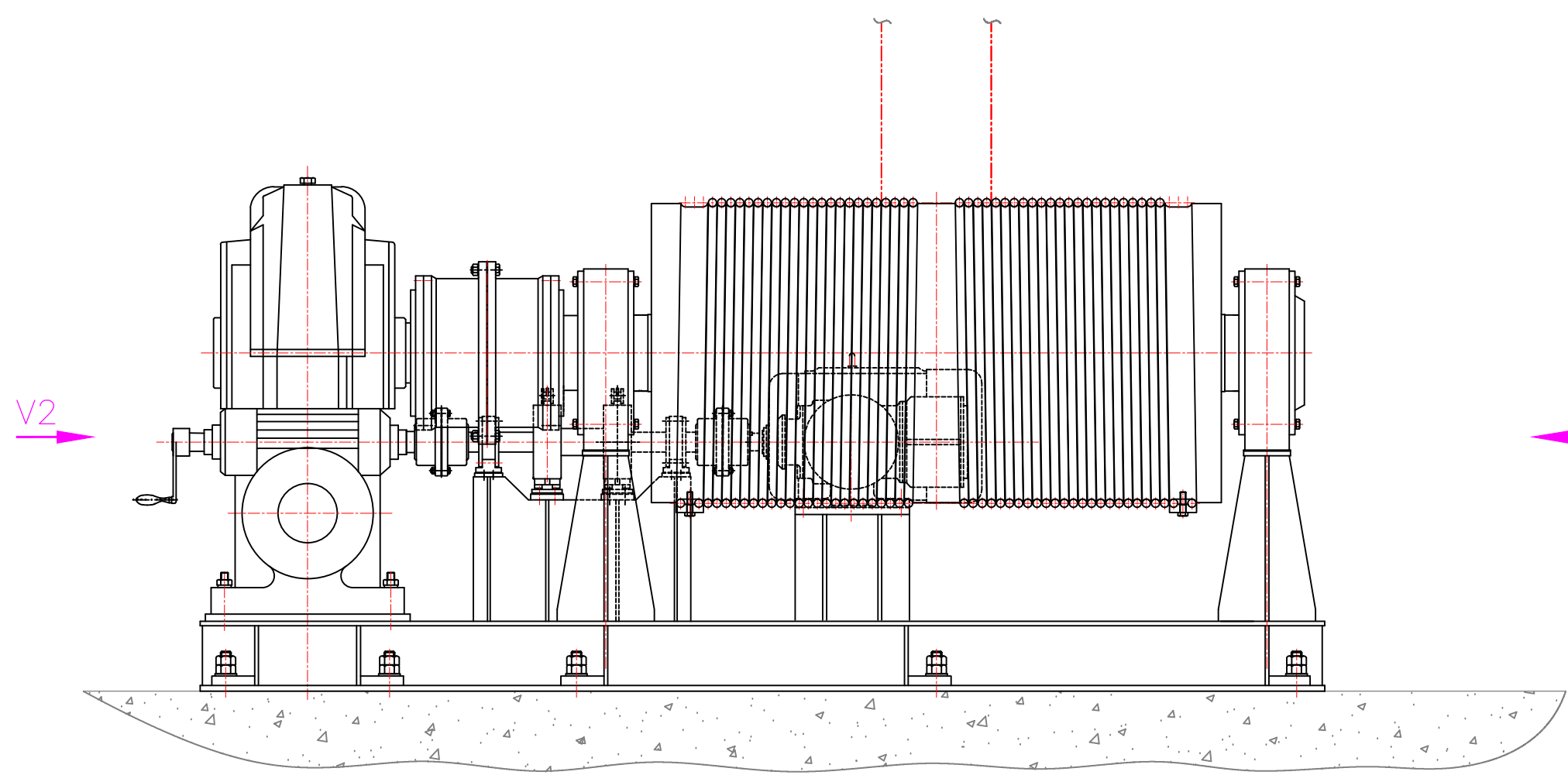
DETAILS OF FOLDING DRIVE SUBASSEMBLY



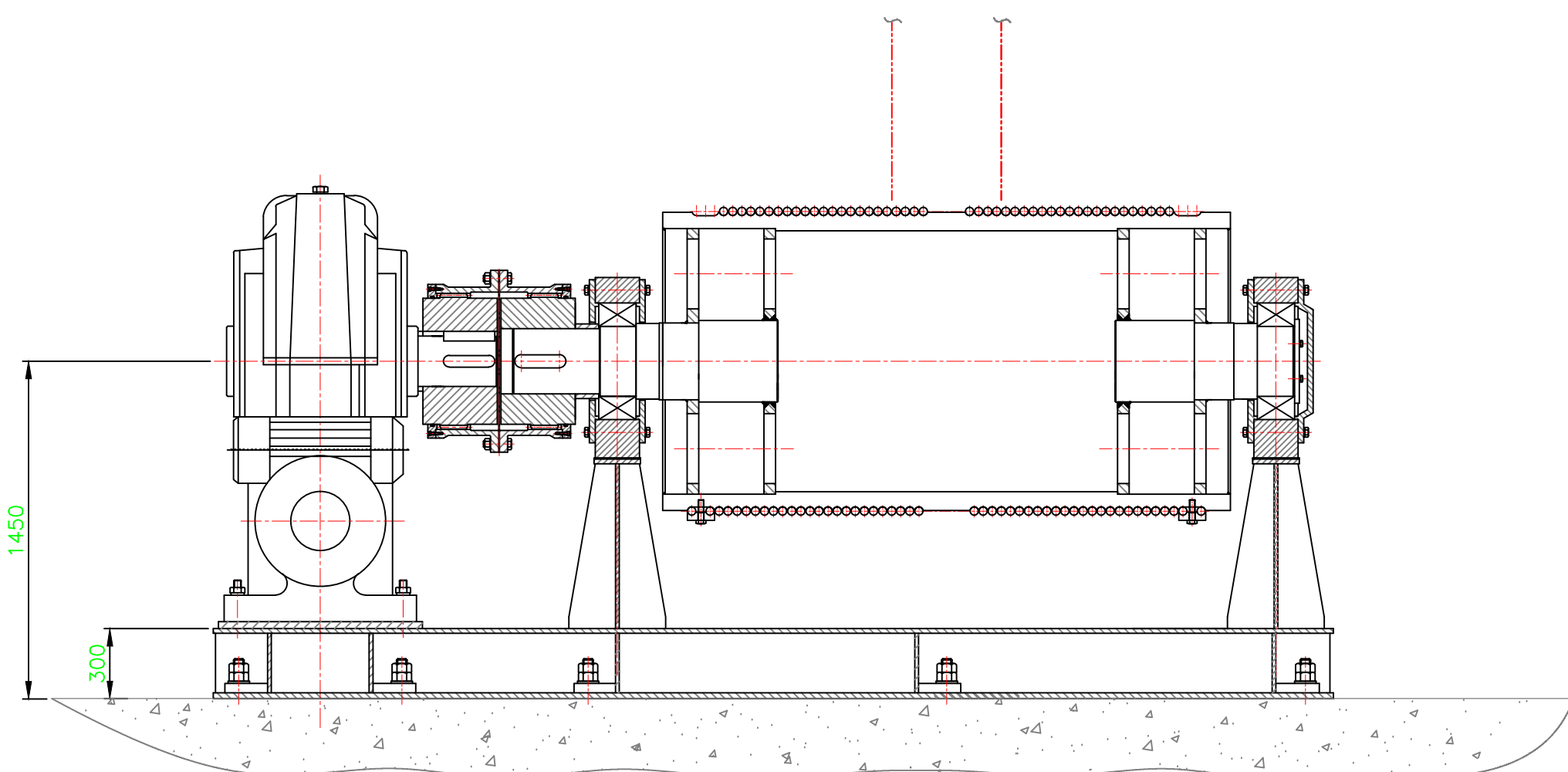
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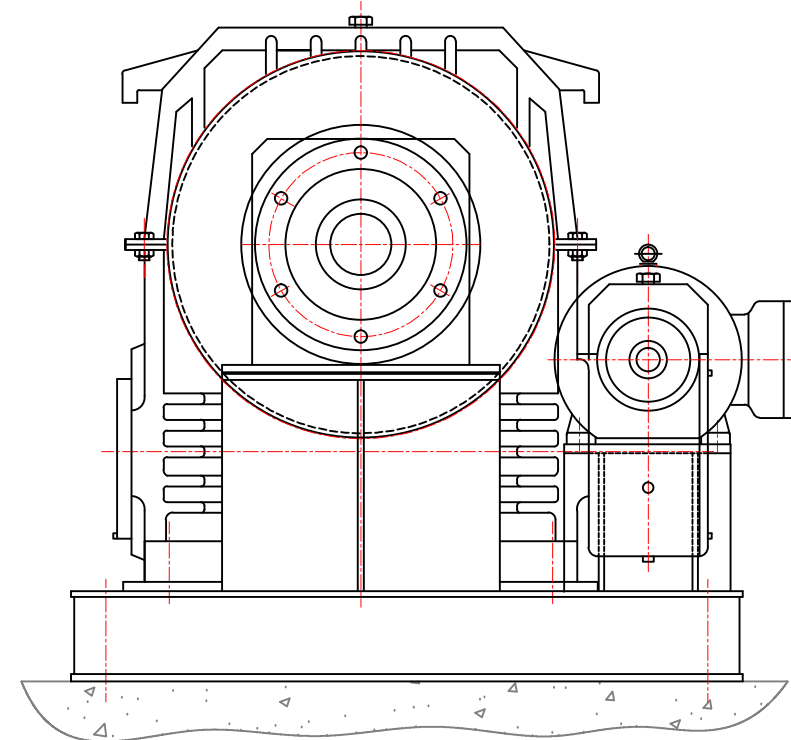


VIEW-V1

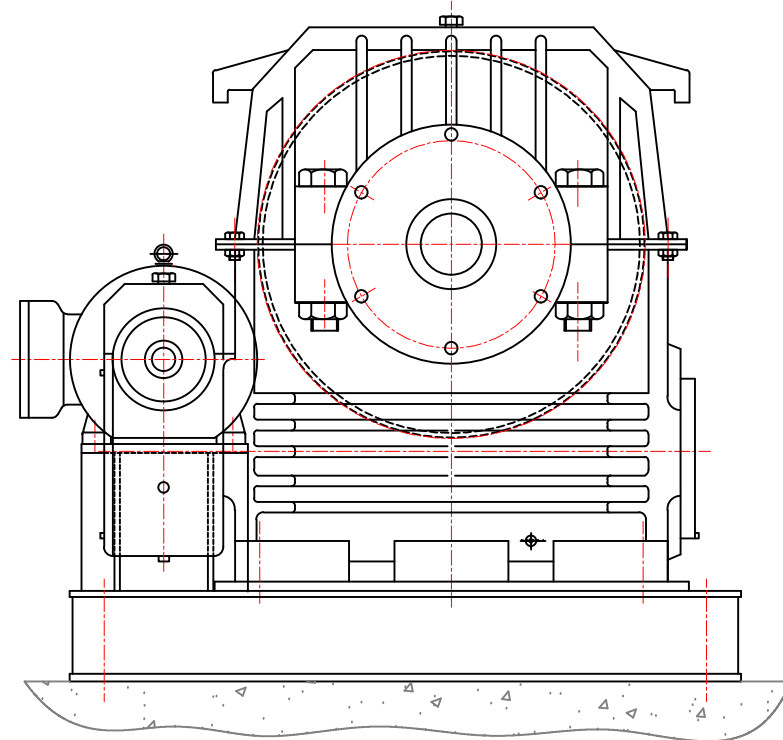


SECTION S8S8

DETAILS OF HOISTING DRIVE SUBASSEMBLY



VIEW-V3





VIEW-V2

NOTES

1. ALL DIMENSIONS ARE IN MM.
2. ADDITIONAL VERTICAL SUPPORT MEMBERS SHALL BE PROVIDED FOR THE BASE FRAME AS REQUIRED.

READ THIS DRAWING IN CONJUNCTION WITH FOLLOWING DRAWING NOS. :

1. TCE.7517A-ME-856-GA-0011
2. TCE.7517A-ME-856-GA-0012
3. TCE.7517A-ME-856-GA-0013
4. TCE.7517A-ME-856-GA-0014
5. TCE.7517A-ME-856-GA-0016
6. TCE.7517A-ME-856-GA-0017
7. TCE.7517A-ME-856-GA-0018

DO NOT SCALE		FOR TENDER PURPOSE	
 INDIAN SPACE RESEARCH ORGANISATION SATISH DHAWAN SPACE CENTRE, SHAR			
 TATA CONSULTING ENGINEERS LIMITED MUMBAI			
PROJECT SECOND VEHICLE ASSEMBLY BUILDING			
TITLE FCVRP CONCEPT			
SCALE: 1:25	APPROVED		DATE (REV. ISSUE)
DEL-CENTRE-DISC-MUM-ME	Sd/-RS Sd/-MKL		DATE (CURRENT) 10.03.2015
DRN: RGMISTRY	Sd/-RS		Sd/-RS
CHD: Sd/-ABD	DWG NO	TCE.7517A-ME-856-GA-0015	ISSUE P
17	18	19	19

FOR RO ISSUE 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